FACILITY NAME AND PERMIT NUMBER:
Dinwiddie Correctional Unit # 27 / VA0023540 / ESU

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

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Jun 10 2008
PRO

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BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name	Dinwiddie Correctional Unit # 27 / Environmental Services Unit (ESU)	
Mailing Address	P.O. Box 40, 13510 Cox Road Church Road, Virginia 23833	
Contact person	Dallas L. Phillips	Robert Watkins
Title	Environmental Services Manager	Treatment Plant Operator
Telephone number	757-925-2212, ext. 5012	804-265-5744
Facility Address (not P.O. Box)	13510 Cox Road Church Road, Virginia 23833	

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name	Virginia Department of Corrections	
Mailing Address	P.O. Box 26963, 6900 Atmore Drive Richmond, Virginia 23261	
Contact person	Dallas L. Phillips	Timothy G. Newton
Title	Environmental Services Manager	Environmental Services Administrator
Telephone number	757-925-2212, ext. 5012	804-674-3303, ext. 1195

Is the applicant the owner or operator (or both) of the treatment works?

✓ owner ✓ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

____ facility ✓ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES	VA0023540	PSD	
UIC		Other	
RCRA		Other	

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
Dinwiddie Correctional Unit # 27	130 inmates	Separate	State Government
	49 employees		

Total population served 179

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

_____ Yes ✓ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

_____ Yes ✓ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 0.015 mgd

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	0.010	0.012	0.012	mgd
c. Maximum daily flow rate	0.058	0.072	0.030	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✓ Separate sanitary sewer	100 %
_____ Combined storm and sanitary sewer	_____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✓ Yes _____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	1
ii. Discharges of untreated or partially treated effluent	None
iii. Combined sewer overflow points	None
iv. Constructed emergency overflows (prior to the headworks)	None
v. Other _____	None

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? _____ Yes ✓ No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharged to surface impoundment(s) _____ mgd

Is discharge _____ continuous or _____ intermittent?

c. Does the treatment works land-apply treated wastewater? _____ Yes ✓ No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ Mgd

Is land application _____ continuous or _____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? _____ Yes ✓ No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter name:

Mailing Address:

Contact person:

Title:

Telephone number:

For each treatment works that receives this discharge, provide the following:

Name:

Mailing Address:

Contact person:

Title:

Telephone number:

If known, provide the NPDES permit number of the treatment works that receives this discharge.

Provide the average daily flow rate from the treatment works into the receiving facility. mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes ✓ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method:

Is disposal through this method continuous or intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: 001

b. Location: Church Road (City or town, if applicable); 23833 (Zip Code); Dinwiddie (County); Virginia (State); 4117584N (Latitude); 18262941E (Longitude)

c. Distance from shore (if applicable): N/A ft.

d. Depth below surface (if applicable): N/A ft.

e. Average daily flow rate: .012 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes ✓ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes No No

A.10. Description of Receiving Waters.

a. Name of receiving water: Unnamed Tributary of Whipponock Creek

b. Name of watershed (if known): Unknown

United States Soil Conservation Service 14-digit watershed code (if known): Unknown

c. Name of State Management/River Basin (if known): James River (Middle)

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): Unknown

d. Critical low flow of receiving stream (if applicable):
acute N/A cfs chronic N/A cfs

e. Total hardness of receiving stream at critical low flow (if applicable): N/A mg/l of $CaCO_3$

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

_____ Primary ✓ Secondary

_____ Advanced _____ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	90	%
Design SS removal	90	%
Design P removal	0	%
Design N removal	90	%
Other _____	_____	%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

_____

If disinfection is by chlorination, is dechlorination used for this outfall? ✓ Yes _____ No

d. Does the treatment plant have post aeration? ✓ Yes _____ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.3	S.U.			
pH (Maximum)	8.8	S.U.			
Flow Rate	0.072	MGD	0.012	MGD	1186
Temperature (Winter)	21 Degrees	Centigrade	15 Degrees	Centigrade	483
Temperature (Summer)	30 Degrees	Centigrade	26 Degrees	Centigrade	366

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN	BOD-5	28.8	mg/l	9.6	mg/l	39	SM5210 B	MDL
DEMAND (Report one)	CBOD-5							
FECAL COLIFORM		4.0	mpn/100mL	1.6	mpn/100mL	3	SM18/9221E	MDL
TOTAL SUSPENDED SOLIDS (TSS)		9.5	mg/l	4.5	mg/l	39	SM2540 D	MDL

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

_____gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

N/A

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____Yes ____No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

_____

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____Yes ____No

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

N/A

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
– Begin construction	___/___/_____	___/___/_____
– End construction	___/___/_____	___/___/_____
– Begin discharge	___/___/_____	___/___/_____
– Attain operational level	___/___/_____	___/___/_____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ____Yes ____No

Describe briefly: _____

_____

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number:_____

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)							
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:
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BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

✓ Basic Application Information packet

Supplemental Application Information packet:

_____ Part D (Expanded Effluent Testing Data)

_____ Part E (Toxicity Testing: Biomonitoring Data)

_____ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

_____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: Timothy G. Newton, Environmental Services Administrator

Signature: [signature]

Telephone number: 804-674-3303, ext. 1195

Date signed: 6-2-08

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:
Dinwiddie Correctional Unit # 27 / VA0023540 / ESU

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SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS $CaCO_3$)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

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Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											

Outfall number: _____ **(Complete once for each outfall discharging effluent to waters of the United States.)**

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLORETHYLENE											
VINYL CHLORIDE											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											

BENZO(A)PYRENE											

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Outfall number: _____ **(Complete once for each outfall discharging effluent to waters of the United States.)**

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE											
BENZO(GHI)PERYLENE											
BENZO(K)FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											

1,2-DIPHENYLHYDRAZINE											

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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.											
Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.											

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

____chronic ____acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number:_____	Test number:_____	Test number:_____
a. Test information.			
Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

	Test number:_____	Test number:_____	Test number:_____
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:			
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity			
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water			
Receiving water			
i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Chronic:			
NOEC	%	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____Yes ____No If yes, describe: _____

_____

_____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

_____

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

____Yes ____No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. _____

b. Number of CIUs. _____

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: _____

Mailing Address: _____

_____

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

_____

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): _____

Raw material(s): _____

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ____Yes ____No

b. Categorical pretreatment standards ____Yes ____No

If subject to categorical pretreatment standards, which category and subcategory?

_____

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ____No If yes, describe each episode.

_____

_____

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?
____Yes ___No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

_____Truck _____Rail _____Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ____No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

_____

_____

_____

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

_____

_____

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

. .Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

_____

_____

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

_____

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number _____

b. Location _____
(City or town, if applicable) (Zip Code)

_____
(County) (State)

_____
(Latitude) (Longitude)

c. Distance from shore (if applicable) _____ ft.

d. Depth below surface (if applicable) _____ ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall _CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

a. Give the number of CSO events in the last year.

_____ events (___ actual or _ approx.)

b. Give the average duration per CSO event.

_____ hours (____ actual or ____ approx.)

c. Give the average volume per CSO event.

_____ million gallons (____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year.

_____ inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: _____

b. Name of watershed/river/stream system: _____

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

_____

_____

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

FACILITY NAME: Dinwiddie Correctional Unit # 27 **VPDES PERMIT NUMBER: VA0023540**

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? X Yes __No

   Will this facility derive a material from sewage sludge? __Yes X No

   If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? __Yes X No

   Will sewage sludge from this facility be applied to the land? __Yes X No

   If you answered No to both questions above, skip Section C.

   If you answered Yes to either, answer the following three questions:

   a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions? __Yes __No

   b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? __Yes __No

   c. Will sewage sludge from this facility be sent to another facility for treatment or blending? __Yes __No

   If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

   If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? __Yes X No

   If Yes, complete Section D (Surface Disposal).

FACILITY NAME: Dinwiddie Correctional Unit # 27 **VPDES PERMIT NUMBER:** VA0023540

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.
   a. Facility name: Dinwiddie Correctional Unit # 27
   b. Contact person: Dallas L. Phillips & Robert Watkins
      Title: Environmental Services Manager & Treatment Plant Operator
      Phone: (757) 925-2212, ext. 5012 & 804-265-5744
   c. Mailing address: Virginia Department of Corrections, Eastern Regional Office
      Street or P.O. Box: 1001 Obici Industrial Blvd., Suite F
      City or Town: Suffolk State: Virginia Zip: 23434
   d. Facility location:
      Street or Route #: 13510 Cox Road
      County: Dinwiddie
      City or Town: Church Road State: Virginia Zip: 23833
   e. Is this facility a Class I sludge management facility? ___Yes _X_No
   f. Facility design flow rate: 0.015 mgd
   g. Total population served: 130 Inmates and 50 Employees
   h. Indicate the type of facility:
      ___ Publicly owned treatment works (POTW)
      ___ Privately owned treatment works
      ___ Federally owned treatment works
      ___ Blending or treatment operation
      ___ Surface disposal site
      _X_ Other (describe): State Owned and Operated Treatment Works

2. Applicant Information. If the applicant is different from the above, provide the following:
   a. Applicant name: Virginia Department of Corrections / Environmental Services Unit
   b. Mailing address:
   c. Street or P.O. Box: 6900 Atmore Drive
      City or Town: Richmond State: Virginia Zip: 23225
   d. Contact person: Timothy G. Newton
      Title: Environmental Services Administrator
      Phone: (804) 674-3303, ext. 1195
   d. Is the applicant the owner or operator (or both) of this facility?
      _X_ owner _X_ operator
   e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
      _X_ facility _X_ applicant

3. Permit Information.
   a. Facility's VPDES permit number (if applicable): VA0023540
   b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number:	Type of Permit:
_____	N/A
_____	

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? ___Yes _X_No If yes, describe:

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:

a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed. (See Attachments)

b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? __Yes __No
If yes, provide the following for each contractor (attach additional pages if necessary).
Name:
Mailing address: N/A
Street or P.O. Box:
City or Town: _____ State: _____ Zip:
Phone: ( )
Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).

8. Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	< 0.5 mg/kg	1-28-08	SW6010B	0.500
Cadmium	< 0.5 mg/kg	1-28-08	SW6010B	0.500
Chromium	5.61 mg/kg	1-28-08	SW6010B	0.500
Copper	556 mg/kg	1-28-08	SW6010B	2.50
Lead	2.89mg/kg	1-28-08	SW6010B	0.500
Mercury	0.024 mg/kg	1-28-08	SW7471A	0.008
Molybdenum	3.4mg/kg	1-28-08	SW6010B	2.50
Nickel	3.00 mg/kg	1-28-08	SW6010B	0.500
Selenium	< 2.5 mg/kg	1-28-08	SW6010B	2.50
Zinc	60.5 mg/kg	1-28-08	SM2540G	2.50

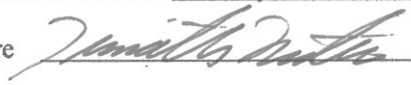
9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

_X_ Section A (General Information)
_X_ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
N/A Section C (Land Application of Bulk Sewage Sludge)
N/A Section D (Surface Disposal)

FACILITY NAME: Dinwiddie Correctional Unit # 27 **VPDES PERMIT NUMBER:** VA0023540

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Timothy G. Newton. Environmental Services Administrator

Signature  Date Signed 6/2/08

Telephone number (804) 674-3303, ext. 1195

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

FACILITY NAME: Dinwiddie Correctional Unit # 27 **VPDES PERMIT NUMBER:** VA0023540

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.
   Total dry metric tons per 365-day period generated at your facility: 12 dry metric tons

2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.
   a. Facility name: N/A
   b. Contact Person:
      Title:
      Phone ( )
   c. Mailing address:
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
   d. Facility Address:
      (not P.O. Box)
   e. Total dry metric tons per 365-day period received from this facility:_____ dry metric tons
   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

3. Treatment Provided at Your Facility.
   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
      ___Class A ___X_Class B ___Neither or unknown
   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: RBC Operation, Aerobic Digestion of Sludge, Dewatering by Sand Drying Beds
   c. Which vector attraction reduction option is met for the sewage sludge at your facility?
      ___ Option 1 (Minimum 38 percent reduction in volatile solids)
      ___ Option 2 (Anaerobic process, with bench-scale demonstration)
      ___ Option 3 (Aerobic process, with bench-scale demonstration)
      ___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      _X_ Option 5 (Aerobic processes plus raised temperature) (Aerobic Process Only)
      ___ Option 6 (Raise pH to 12 and retain at 11.5)
      ___ Option 7 (75 percent solids with no unstabilized solids)
      ___ Option 8 (90 percent solids with unstabilized solids)
      ___ None or unknown
   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: RBC Operation, 28 Day Aerobic Digestion Cycle, Dewatering by . Sand Drying Beds
   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: N/A or None

4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).
   (If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:
      dry metric tons N/A
   b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?
      __Yes _X_No

5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.) N/A

a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land:_____ dry metric tons

b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending.

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

a. Receiving facility name: N/A

b. Facility contact:
Title:
Phone: ( )

c. Mailing address:
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: _____ dry metric tons

e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
_____	
_____	

f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?
Yes ___No
Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
___Class A ___Class B ___Neither or unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? ___Yes ___No
Which vector attraction reduction option is met for the sewage sludge at the receiving facility?
___ Option 1 (Minimum 38 percent reduction in volatile solids)
___ Option 2 (Anaerobic process, with bench-scale demonstration)
___ Option 3 (Aerobic process, with bench-scale demonstration)
___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
___ Option 5 (Aerobic processes plus raised temperature)
___ Option 6 (Raise pH to 12 and retain at 11.5)
___ Option 7 (75 percent solids with no unstabilized solids)
___ Option 8 (90 percent solids with unstabilized solids)
___ None unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge:

h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
___Yes ___No
If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? ___Yes ___No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? ___ Yes ___ No. If no, provide description and specification on the vehicle used to transport the

sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported.

7. Land Application of Bulk Sewage Sludge.
(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.) N/A
   a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:_____dry metric tons
   b. Do you identify all land application sites in Section C of this application? ___Yes ___No
   If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).
   c. Are any land application sites located in States other than Virginia? ___Yes ___No
   If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

   d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal.
(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.) N/A
   a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: dry metric tons
   b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
   ___Yes ___No
   If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.
   c. Site name or number:
   d. Contact person:
   Title:
   Phone: ( )
   Contact is: ___Site Owner ___Site operator
   e. Mailing address.
   Street or P.O. Box:
   City or Town:_____ State:_____ Zip:
   f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons
   g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:
   Permit Number: Type of Permit:
   _____
   _____

9. Incineration.
(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.) N/A
   a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: dry metric tons
   b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
   ___Yes ___No
   If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.
   c. Incinerator name or number:
   d. Contact person:
   Title:
   Phone: ( )
   Contact is: ___Incinerator Owner ___Incinerator Operator
   e. Mailing address.

Street or P.O. Box:
City or Town:_____ State:_____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:

Permit Number:	Type of Permit:

10. Disposal in a Municipal Solid Waste Landfill.

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

a. Landfill name: Shoosmith Brothers, Inc.

b. Contact person: Paul Nobles
Title: Manager of Operations
Phone: (804) 748-3311
Contact is: ___Landfill Owner _X_ Landfill Operator (Manager)

c. Mailing address.
Street or P.O. Box: 11800 Lewis Road
City or Town: Chester State: Virginia Zip: 23831

d. Landfill location.
Street or Route #: 11800 Lewis Road
County:
City or Town: Chester State: Virginia Zip: 23831

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:
6 dry metric tons

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:	Type of Permit:
587	State Issued Sanitary Landfill Operations

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
_X_ Yes ___No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? _X_ Yes ___No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? _X_ Yes ___ No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. Route 751E to HWY 460E to Interstate 85E to Interstate 95N To Route 10W to Landfill

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply: N/A

The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or

The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or

You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).

Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site. N/A
   a. Site name or number:
   b. Site location (Complete i and ii)
      i. Street or Route#:
      County:
      City or Town: _____ State: _____ Zip:
      ii. Latitude:_____ Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.
   a. Are you the owner of this land application site? ___Yes ___No
   b. If no, provide the following information about the owner:
      Name:
      Street or P.O. Box:
      City or Town: _____ State:_____ Zip:
      Phone: ( )

3. Applier Information:
   a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? Yes ___No
   b. If no, provide the following information for the person who applies the sewage sludge:
      Name:
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
      Phone: ( )
   c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:
      Permit Number: Type of Permit:
      _____
      _____

4. Site Type. Identify the type of land application site from among the following:
   ___Agricultural land ___Reclamation site ___Forest
   ___Public contact site ___Other. Describe

5. Vector Attraction Reduction.
   Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
   ____Yes ____No If yes, answer a and b.
   a. Indicate which vector attraction reduction option is met:
      ___ Option 9 (Injection below land surface)
      ___ Option 10 (Incorporation into soil within 6 hours)
   b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

6. Cumulative Loadings and Remaining Allotments.
   (Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.) N/A

a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? ___Yes ___No
If no, sewage sludge subject to the CPLRs may not be applied to this site.
If yes, provide the following information:
Permitting authority:
Contact person:
Phone:( )

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? Yes ___No If no, skip the rest of Question 6. If yes, answer questions c - e.

c. Site size, in hectares: _____ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.
Facility name:
Facility contact:
Title:
Phone: ( )
Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic	_____	
Cadmium	_____	
Copper	_____	
Lead	_____	
Mercury	_____	
Nickel	_____	
Selenium	_____	
Zinc	_____	

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation. N/A

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)
pH (S. U.)
Percent Solids (%)
Ammonium Nitrogen (mg/kg)
Nitrate Nitrogen (mg/kg)
Total Kjeldahl Nitrogen (mg/kg)
Total Phosphorus (mg/kg)
Total Potassium (mg/kg)
Alkalinity as $CaCO_3$* (mg/kg)

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

8. Storage Requirements.

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
   1) Water wells, abandoned or operating
   2) Surface waters
   3) Springs
   4) Public water supply(s)
   5) Sinkholes
   6) Underground and/or surface mines
   7) Mine pool (or other) surface water discharge points
   8) Mining spoil piles and mine dumps
   9) Quarry(s)
   10) Sand and gravel pits
   11) Gas and oil wells
   12) Diversion ditch(s)
   13) Agricultural drainage ditch(s)
   14) Occupied dwellings, including industrial and commercial establishments
   15) Landfills or dumps
   16) Other unlined impoundments
   17) Septic tanks and drainfields
   18) Injection wells
   19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:
   1) Maximum and minimum percent slopes
   2) Depressions on the site that may collect water
   3) Drainageways that may attribute to rainfall run-on to or runoff from this site
   4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. Ground Water Monitoring.

Are any ground water monitoring data available for this land application site? ___Yes ___No

If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period) **N/A**

a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service
Virginia Field Office
P. O. Box 480
White Marsh, VA 23183
TEL: (804)693-6694

Provide a copy of the notification letter with this application form.

d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge N/A

e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:

1). Soil symbol
2). Soil series, textural phase and slope range
3). Depth to seasonal high water table
4). Depth to bedrock
5). Estimated soil productivity group (for the proposed crop rotation)

f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)
Soil pH (std. units)
Cation Exchange Capacity (meq/100g)
Total Nitrogen (ppm)
Organic Nitrogen (ppm)
Ammonia Nitrogen (ppm)
Nitrate Nitrogen (ppm)
Available Phosphorus (ppm)
Exchangeable Potassium (mg/100g)
Exchangeable Sodium (mg/100g)
Exchangeable Calcium (mg/100g)
Exchangeable Magnesium (mg/100g)
Arsenic (ppm)
Cadmium (ppm)
Copper (ppm)
Lead (ppm)
Mercury (ppm)
Molybdenum (ppm)
Nickel (ppm)
Selenium (ppm)
Zinc (ppm)
Manganese (ppm)
Particle Size Analysis or
USDA Textural Estimate (%)

g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.

h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

FACILITY NAME: Dinwiddie Correctional Unit # 27 **VPDES PERMIT NUMBER: VA0023540**

SEWAGE SLUDGE APPLICATION AGREEMENT N/A

This sewage sludge application agreement is made on this date _____ between _____, referred to here as "landowner", and _____, referred to here as the "Permittee".

Landowner is the owner of agricultural land shown on the map attached as Exhibit A and designated there as _____ ("landowner's land"). Permittee agrees to apply and landowner agrees to comply with certain permit requirements following application of sewage sludge on landowner's land in amounts and in a manner authorized by VPDES permit number _____ which is held by the Permittee.

Landowner acknowledges that the appropriate application of sewage sludge will be beneficial in providing fertilizer and soil conditioning to the property. Moreover, landowner acknowledges having been expressly advised that, in order to protect public health, the following site restrictions must be adhered to when sewage sludge receives Class B treatment for pathogen reduction:

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge;

2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil;

3. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil;

4. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;

5. Animals shall not be grazed on the land for 30 days after application of sewage sludge;

6. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Water Control Board;

7. Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge;

8. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

9. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for three years following the application of sewage sludge borne cadmium equal to or exceeding 0.5 kilograms/hectare (0.45 pounds/acre).

Permittee agrees to notify landowner or landowner's designee of the proposed schedule for sewage sludge application and specifically prior to any particular application to landowner's land. This agreement may be terminated by either party upon written notice to the address specified below.

Landowner:	Permittee:
_____	_____
Signature	Signature
_____	_____
Mailing Address	Mailing Address

g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?
___ Option 1 (Minimum 38 percent reduction in volatile solids)
___ Option 2 (Anaerobic process, with bench-scale demonstration)
___ Option 3 (Aerobic process, with bench-scale demonstration)
___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
___ Option 5 (Aerobic processes plus raised temperature)
___ Option 6 (Raise pH to 12 and retain at 11.5)
___ Option 7 (75 percent solids with no unstabilized solids)
___ Option 8 (90 percent solids with unstabilized solids)
___ None or unknown

h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge:

i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above:

3. Vector Attraction Reduction.

a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?
___ Option 9 (Injection below land surface)
___ Option 10 (Incorporation into soil within 6 hours)
___ Option 11 (Covering active sewage sludge unit daily)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

4. Ground Water Monitoring.

a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? ___Yes ___No
If yes, provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
___Yes ___No If yes, submit a copy of the ground water monitoring program with this application.

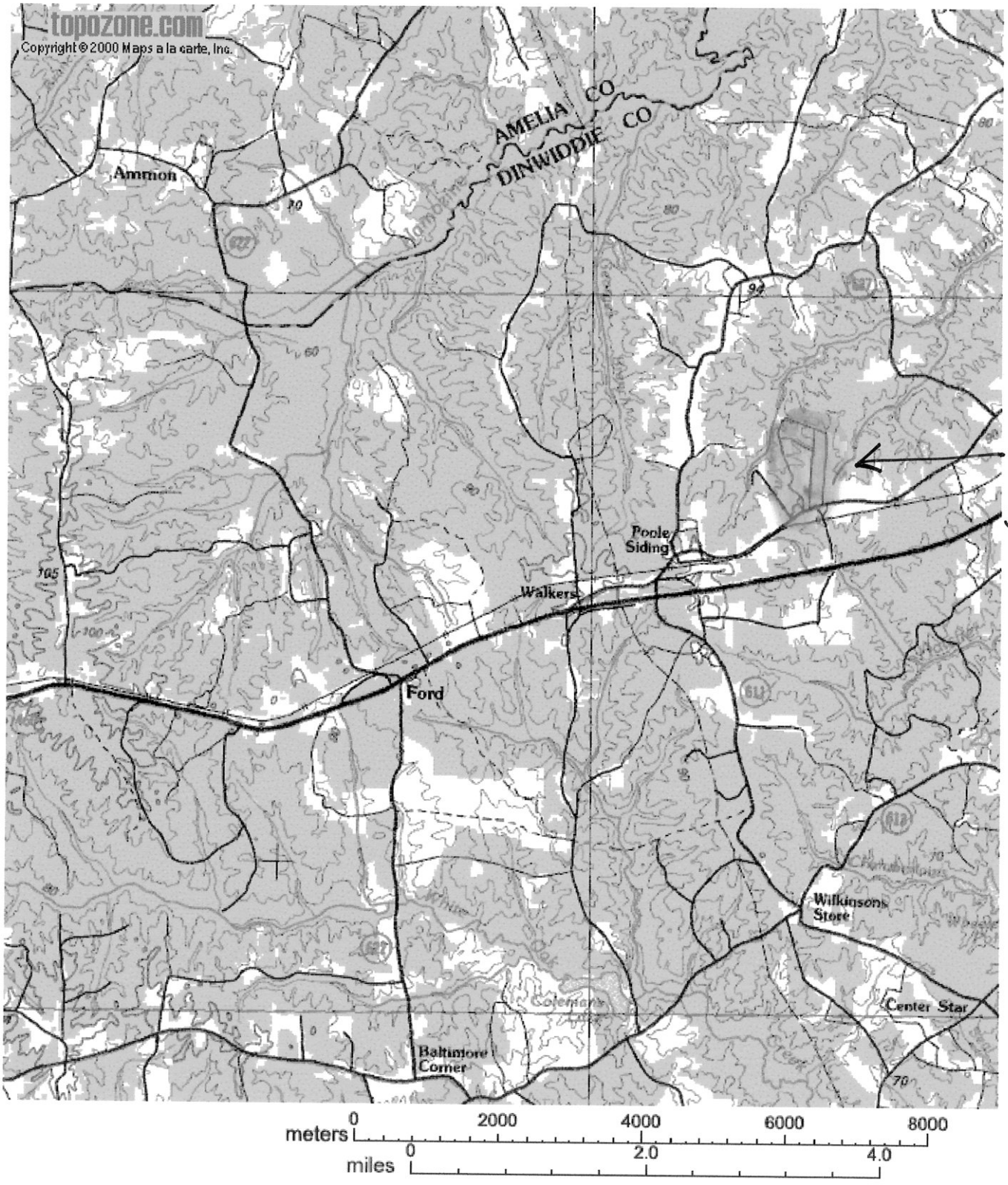
c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? ___Yes ___No
If yes, submit a copy of the certification with this application.

5. Site-Specific Limits.

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
___Yes ___No If yes, submit information to support the request for site-specific pollutant limits with this application.

TopoZone.com

Map center is UTM 18 263646E 4117460N - **CHURCH ROAD** quad [Quad Inf



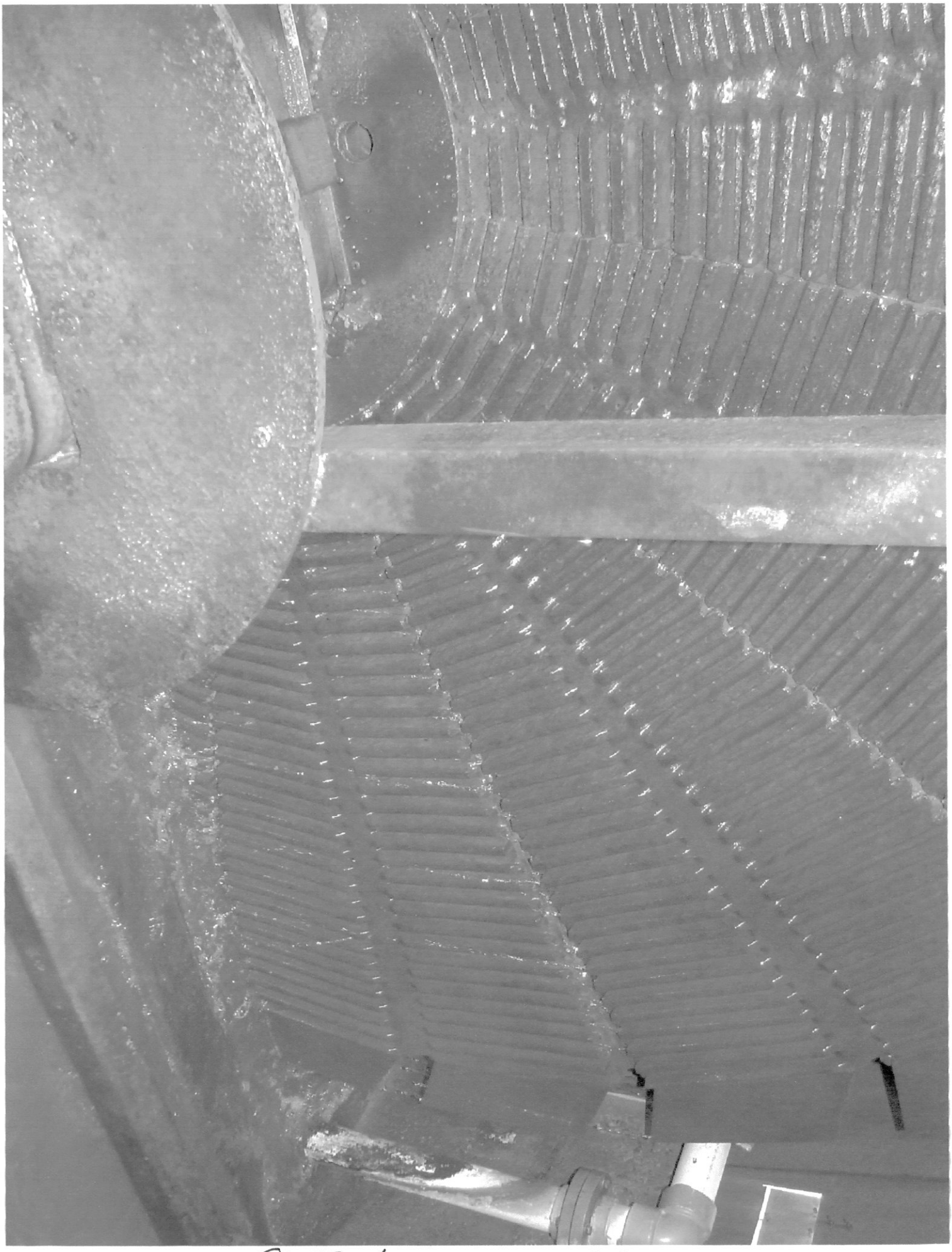
TopoZone.com

Map center is UTM 18 263653E 4117467N - **CHURCH ROAD** quad [Quad Info

① Stabilization Septic Tank

(I) RBC / Rotating Biological Contactor

③ Influent Equalization Basin

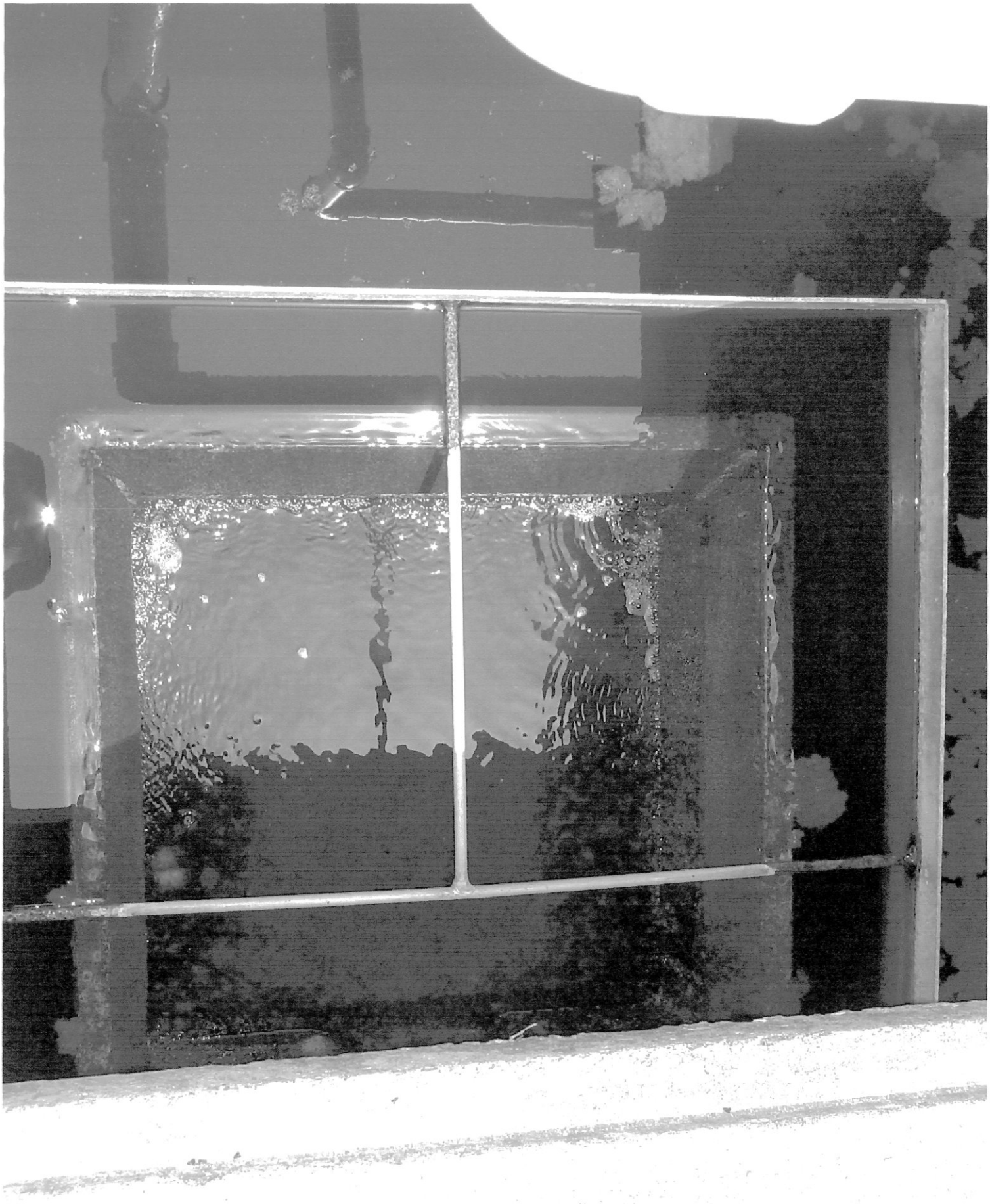


④ Entrance to RBC

⑤ Exit to RBC

(5) Exit to RBC

(5) Clarifier and Digester



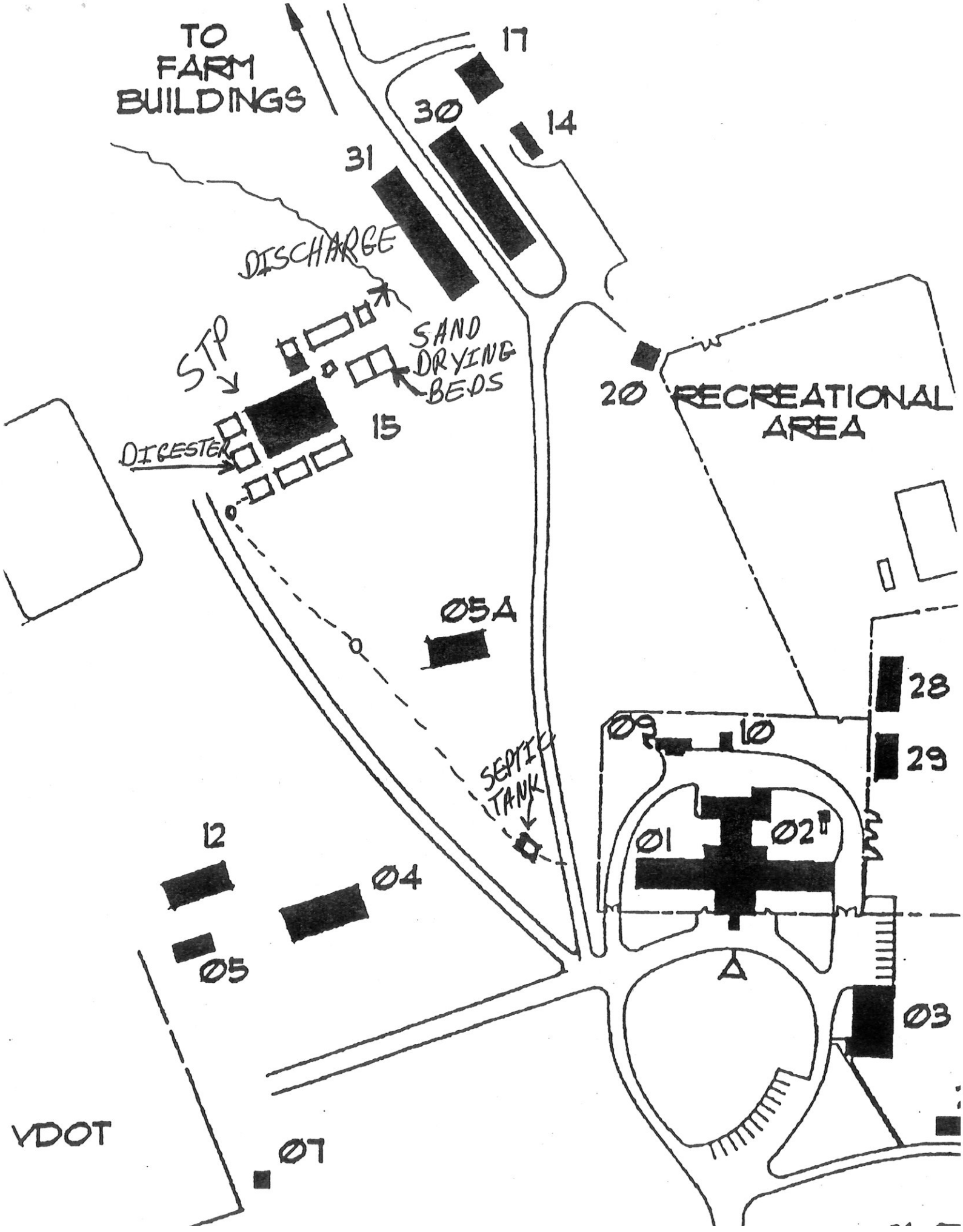
⑦ Clarifier Discharge

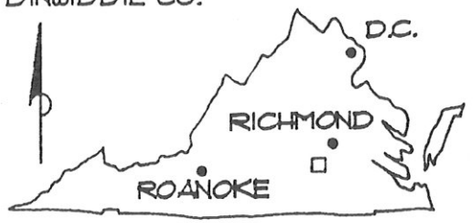
⑧ Chlorine Contact Tank - Dechlorination Tank - Cascade

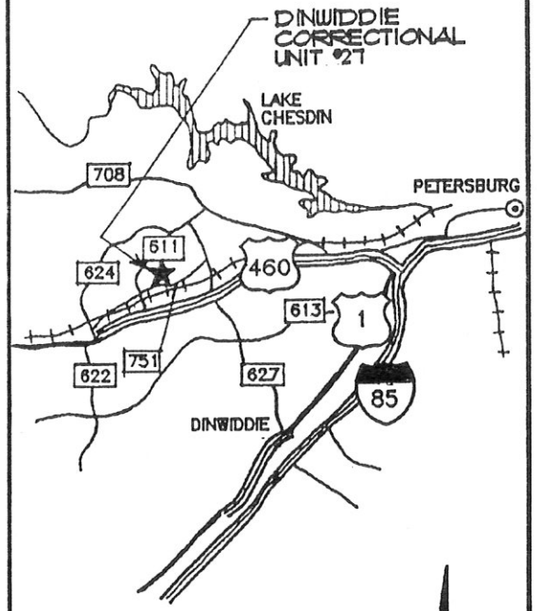
⑧ Chlorine Contact Tank - Dechlorination Tank - Cascade

Cascade

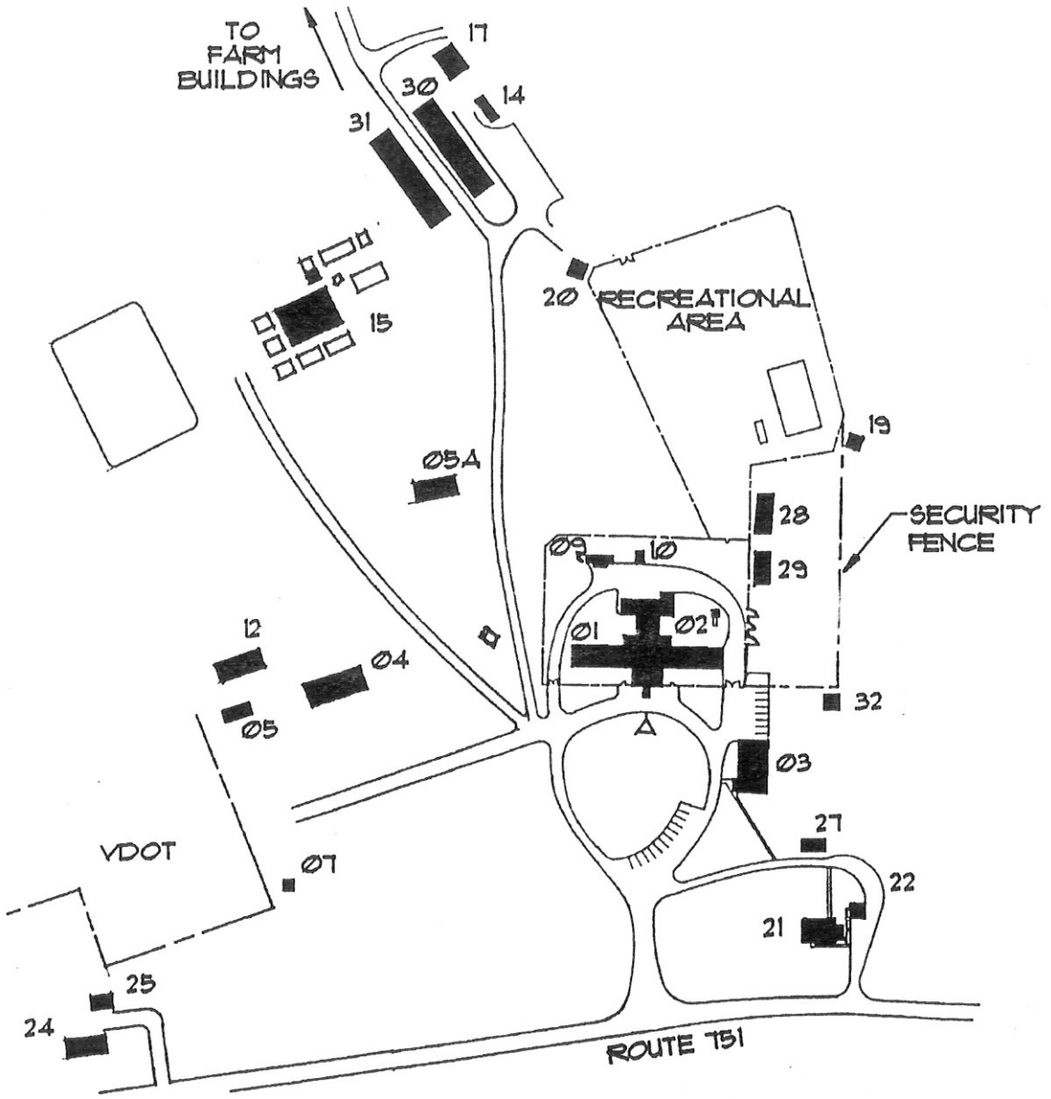
Spa & Diving Beds ©


TO FARM BUILDINGS
17
30
14
31
DISCHARGE
STP
SAND DRYING BEDS
20
RECREATIONAL AREA
15
DIGESTER
05A
28
09
10
29
SEPTIC TANK
01
02
12
04
05
03
VDOT
07





VICINITY MAP



SITE PLAN

0 100 200

LEGEND

FAACS NO.	NAMES OF BUILDINGS
01	MAIN BUILDING/HOUSING
02	PUMP HOUSE
03	ADMINISTRATION
04	REGIONAL MAINTENANCE SHOP
05	POTATO HOUSE/STORAGE
05A	WWTP LAB
07	PUMP HOUSE
09	LAUNDRY
10	GARBAGE HOUSE
12	LAWN/GARDEN EQUIP. STORAGE
14	RECYCLING BUILDING
15	SEWAGE PLANT
17	STORAGE SHED FARM
19	GUARD TOWER (FRONT)
20	GUARD TOWER (REAR)
21	SUPT. RESIDENCE
22	SUPT. GARAGE
24	STAFF RESIDENCE
25	STAFF GARAGE
27	SUPT. CARPORT
28	DCE CLASSROOM
29	COUNSELORS' OFFICES
30	GREENHOUSE #1
31	GREENHOUSE #2
32	GUARD TOWER (SCHOOL)

TOTAL ACREAGE OF INSTITUTION: 176
DATE OF MAIN STRUCTURES: 1951
LENGTH OF PERIMETER SECURITY FENCING: 2,110 L.F.
BUILDING CONSTRUCTION: REINF. CONCRETE STRUCTURE W/ CONC. BLOCK WALLS

DINWIDDIE CORRECTIONAL UNIT #27

INST. CODE: 761
REGION III: CENTRAL

ESU/DINWIDDIE CORRECTIONAL UNIT # 27
WASTEWATER TREATMENT PLANT
RBC

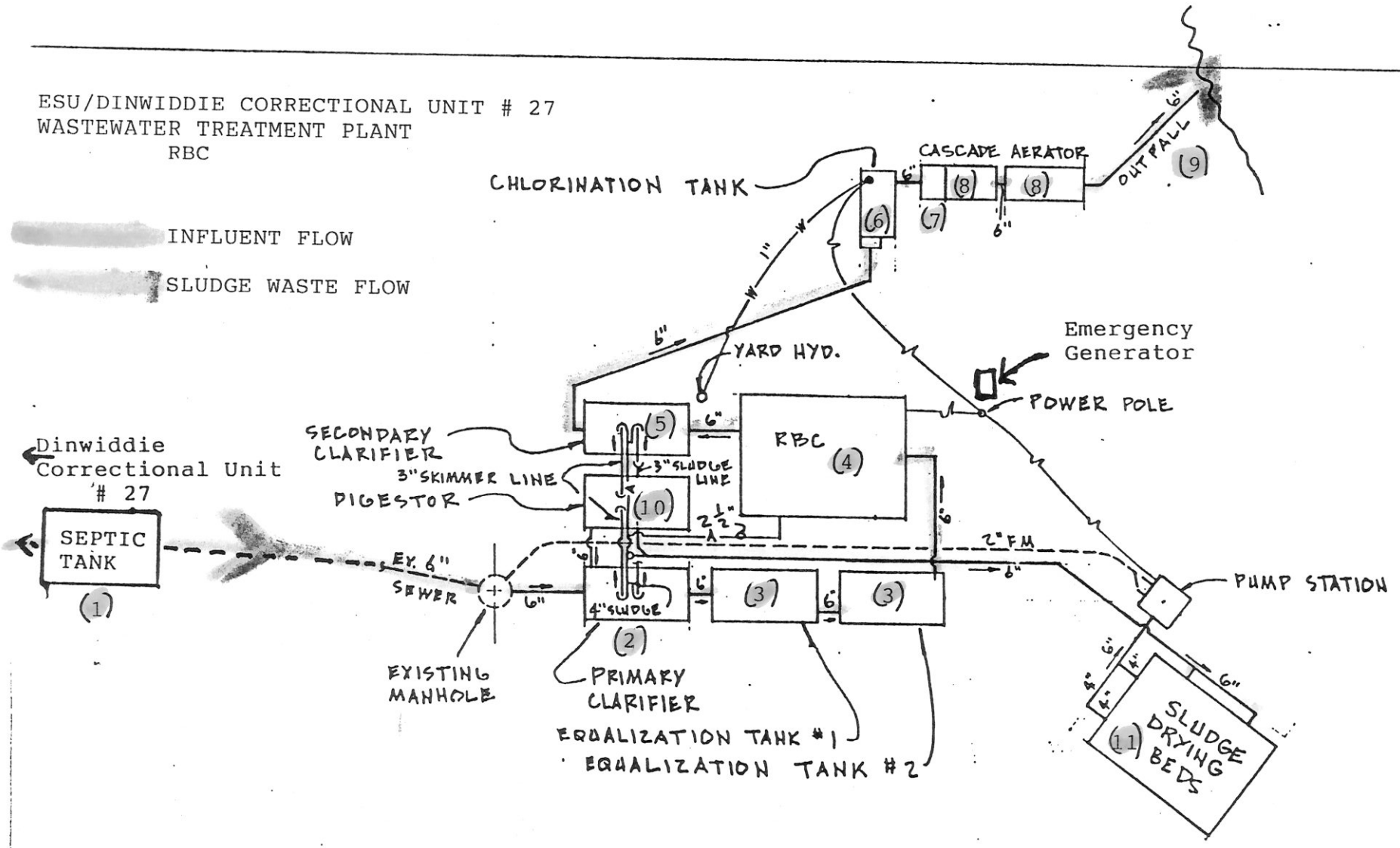


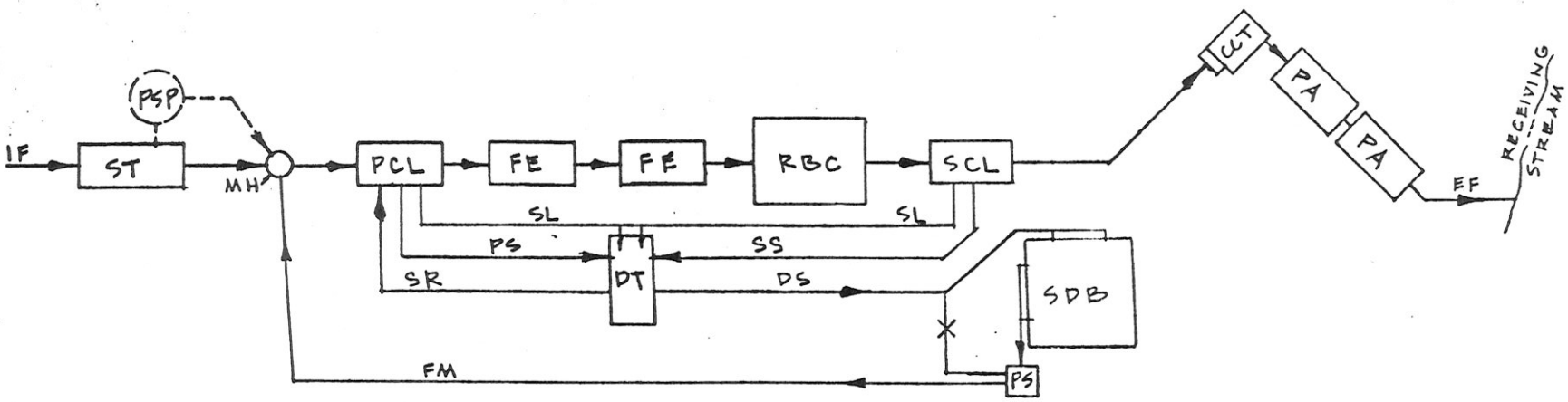
FIGURE Nº 1
PLANT LAYOUT

REVISED 11-15-83

ESU DINWIDDIE CORRECTIONAL UNIT #27
WASTEWATER TREATMENT PLANT
RBC

The influent flows into an (1) old existing two compartment septic tank. The principle function of the septic tank is the removal of large solids and dense particulate matter, which will reduce the solids loading on the downstream treatment units and to provide some anaerobic digestion of the raw sludge. Flow goes from here to the (2) primary clarifier. The solids loading on the primary clarifier is expected to be very low. The relatively quiescent state present in this unit should provide excellent removal of remaining solids. The object of the primary clarifier is to remove the settleable solids from the waste stream. The solids will settle to the hopper bottom where they can be periodically pumped to the digester. Flow goes from here to the (3) flow equalization basins. There are two EQ tanks present. They handle variations in wastewater flows to provide a constant load in the downstream treatment units. Flow goes from here to the (4) RBC Unit. The RBC process is a secondary, biological wastewater treatment system. It consist of a large-diameter corrugated plastic media mounted in a horizontal shaft and placed in a concrete tank. The media is slowly rotated by air pressure while approximately 40% of the surface area, is submerged in the wastewater. The biological population present on the plastic media is responsible for the treatment achieved. Flow goes from here to the (5) secondary clarifier basin. When a liquid containing solid particles is placed in a relatively quiescent state, those particles having a higher specific gravity than the liquid tend to settle. It is the object of this secondary clarifier to remove the suspended solids and deliver them to the digester for further digestion and storage. Flow goes from here to the (6) chlorination tank. Here disinfection takes place. Dual tablet chlorinators are utilized to deliver disinfection. Flow goes from here to (7) dechlorination and then to (8) post aeration which consist of a two chamber cascade structure. Here oxygen is added into the flow before it reaches the (9) plant outfall where the effluent discharge takes place. Skimmings and settled sludge is disposed of in the (10) aerobic digester. Aerobic digestion is the process utilized to stabilize the combination of primary and secondary sludges. This is accomplished by aerating the sludge until it is stable and relatively nuisance free. Only then is it pumped to the (11) sludge drying beds which dewater the solids. When sufficient drying occurs which will equal to a 20% or higher cake, will it be removed by shovel and loaded onto a truck to be transported to Shoosmith Landfill in Chesterfield County for disposal.

FIGURE Nº 2

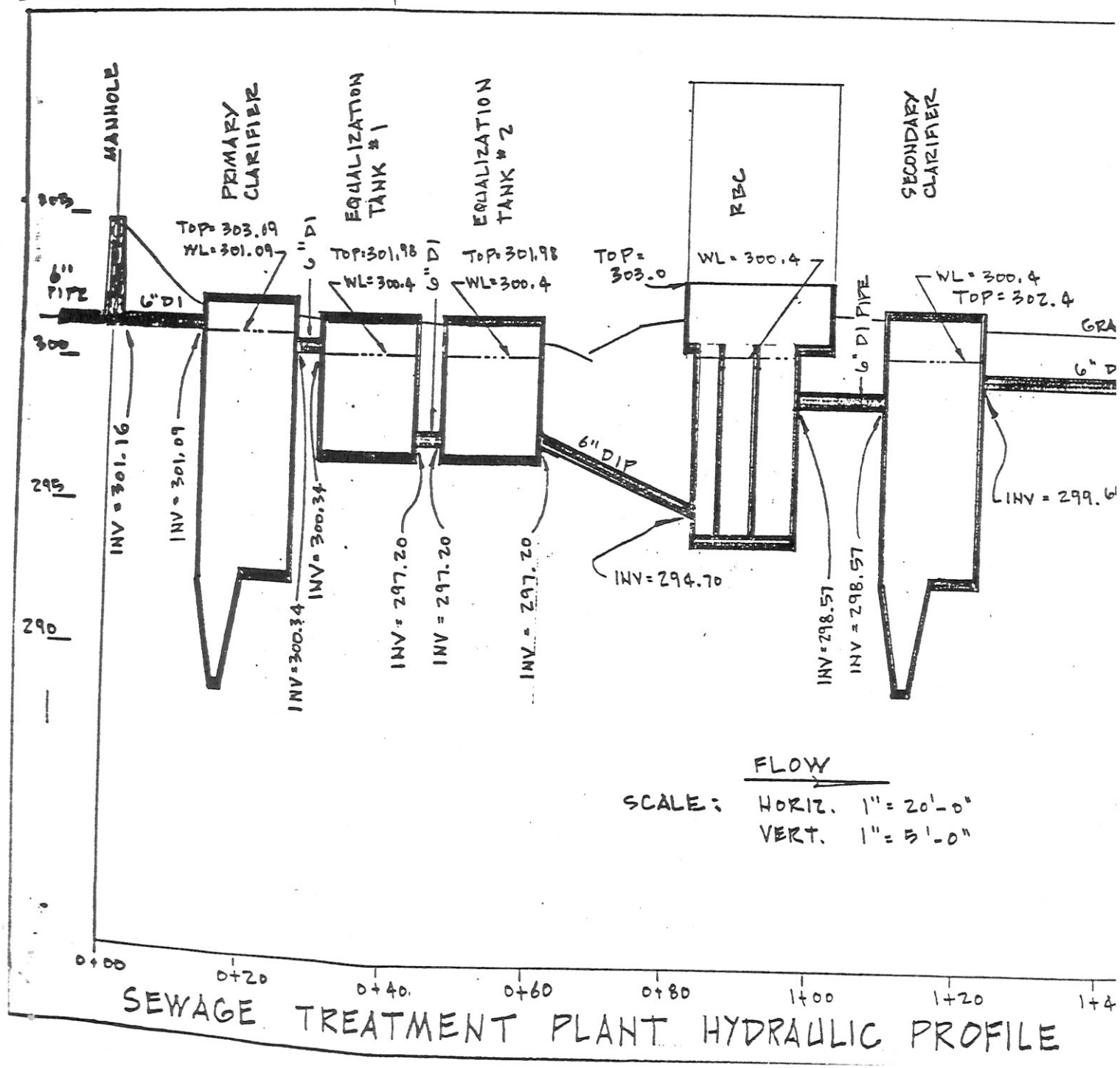


CORRECTIONAL UNIT 27 STP FLOW DIAGRAM

ABBREVIATIONS

IF	Influent Sewage
EF	Effluent
ST	Septic Tank
MH	Manhole
PCL	Primary Clarifier
FE	Flow Equalization
RBC	Rotating Biological Contactor
SCL	Secondary Clarifier
CCT	Chlorine Contact Tank
PA	Post Aeration
PS	Pump Station
SDB	Sludge Drying Beds
PSP	Portable Sludge Pump
DT	Digester Tank
SR	Supernant Return
FM	Force Main
DS	Digested Sludge
SL	Skimmer Line
PS	Primary Sludge
SS	Secondary Sludge
STP	Sewage Treatment Plant

REVISED 11-15-83



FLOW

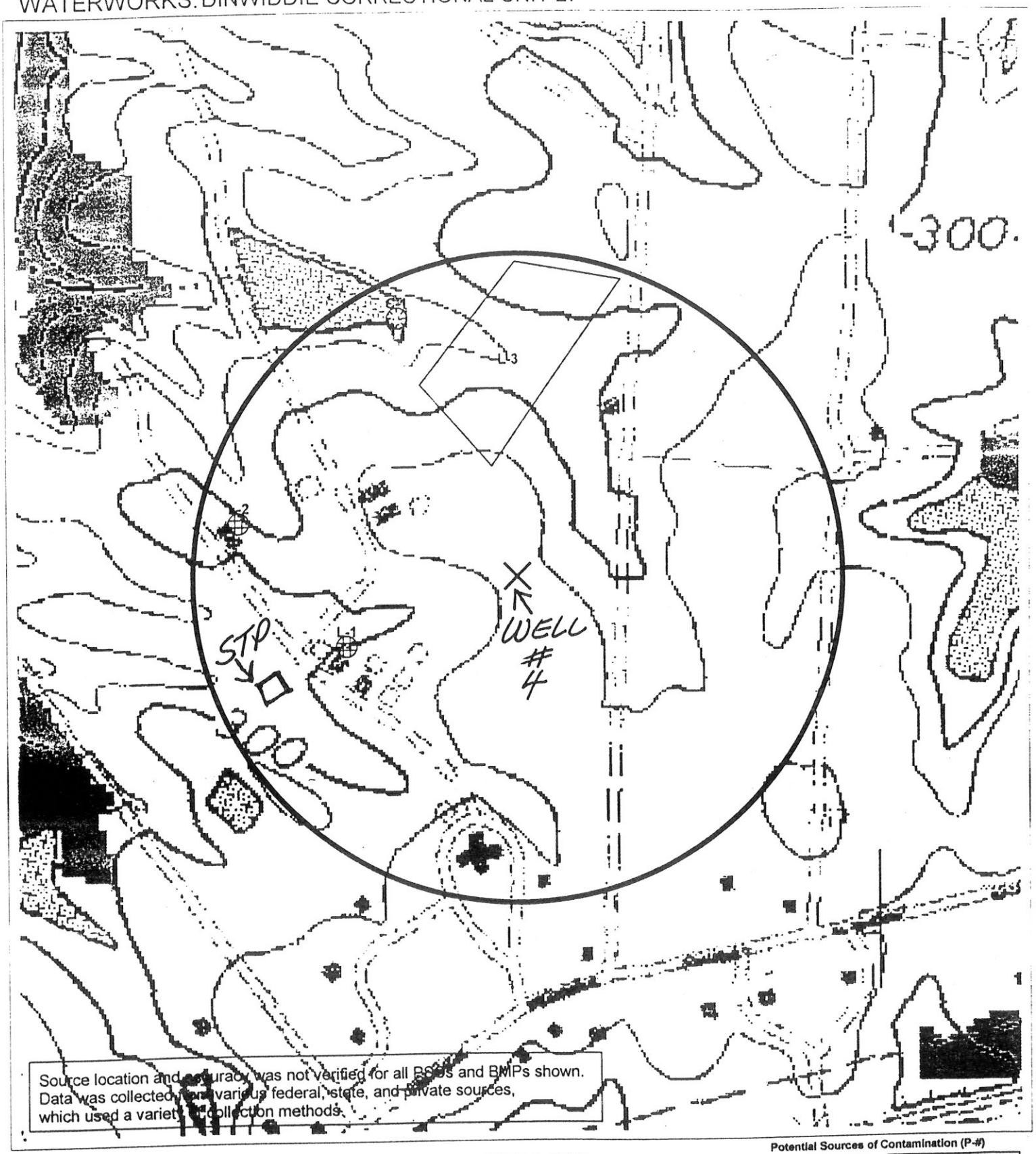
SCALE: HORIZ. 1" = 20'-0"
VERT. 1" = 5'-0"

SEWAGE TREATMENT PLANT HYDRAULIC PROFILE

SWAP Zone 1 Map

PWSID: 3053400
FACILITY: DRILLED WELL 4
WATERWORKS: DINWIDDIE CORRECTIONAL UNIT 27

DISTRICT 19
COUNTY/CITY: DINWIDDIE



Ground Water Sources
Selected Water Source
LUA Polygons
PC Polygons
Land Use Activities (L-#)
Potential Conduits (C-#)
Best Management Practices (B-#)

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Division of Drinking Water

N
200 0 200 400 Feet

Print Date: September 2002

Potential Sources of Contamination (P-#)

Landfills
Discharge -- No Discharge Facilities
Discharge
No Discharge
DEQSWRO -- Storage Tank Releases
Active
Closed

Airports
Industrial Sites
Superfund Sites
Golf Courses
Underground Injection Wells
Hazardous and RCRA Sites
Hospitals
Tire Piles

SWAP Zone 1 Map

PWSID: 3053400
FACILITY: DRILLED WELL 3 (7)
WATERWORKS: DINWIDDIE CORRECTIONAL UNIT 27

DISTRICT 19
COUNTY/CITY: DINWIDDIE

Ground Water Sources
Selected Water Source
LUA Polygons
PC Polygons
Land Use Activities (L-#)
Potential Conduits (C-#)
Best Management Practices (B-#)

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Division of Drinking Water

N
200 0 200 400 Feet

Print Date: September 2002

Potential Sources of Contamination (P-#)

Landfills
Discharge – No Discharge Facilities
Discharge
No Discharge
DEQ/SWRO – Storage Tank Releases
Active
Closed

Airports
Industrial Sites
Superfund Sites
Golf Courses
Underground Injection Wells
Hazardous and RCRA Sites
Hospitals
Tire Piles

SWAP Zone 1 Map

PWSID: 3053400
FACILITY: DINWIDDIE CORRECTIONAL UNIT 27 (9)
WATERWORKS: DINWIDDIE CORRECTIONAL UNIT 27

DISTRICT 19
COUNTY/CITY: DINWIDDIE

Ground Water Sources
Selected Water Source
LUA Polygons
PC Polygons
Land Use Activities (L-#)
Potential Conduits (C-#)
Best Management Practices (B-#)

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Division of Drinking Water

N
200 0 200 400 Feet

Print Date: September 2002

Potential Sources of Contamination (P-#)

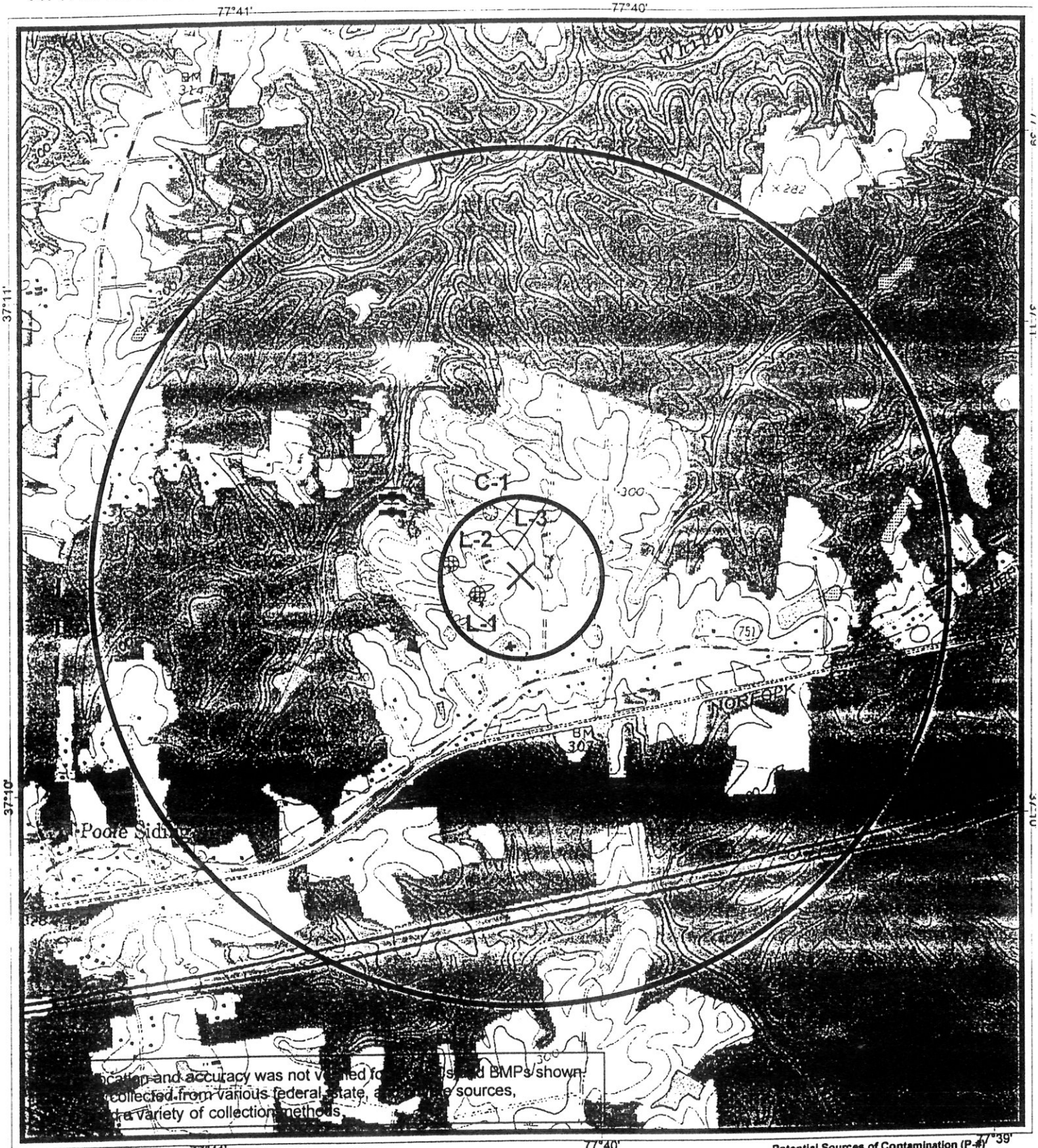
Landfills
Discharge -- No Discharge Facilities
Discharge
No Discharge
DEQSWRO -- Storage Tank Releases
Active
Closed

Airports
Industrial Sites
Superfund Sites
Golf Courses
Underground Injection Wells
Hazardous and RCRA Sites
Hospitals
Tire Piles

SWAP Zone 2 Map

PWSID: 3053400
FACILITY: DRILLED WELL 4
WATERWORKS: DINWIDDIE CORRECTIONAL UNIT 27

DISTRICT 19
COUNTY/CITY: DINWIDDIE



Location and accuracy was not verified for [illegible] and BMPs shown. Data collected from various federal, state, and [illegible] sources, using a variety of collection methods.

Potential Sources of Contamination (P-#)

Ground Water Sources
Selected Water Source
LUA Polygons
PC Polygons
Land Use Activities (L-#)
Potential Conduits (C-#)
Best Management Practices (B-#)

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Division of Drinking Water

N
800 0 800 1600 Feet

Print Date: September 2002

Landfills
Discharge -- No Discharge Facilities
Discharge
No Discharge
DEQ/SWRO -- Storage Tank Releases
Active
Closed

Airports
Industrial Sites
Superfund Sites
Golf Courses
Underground Injection Wells
Hazardous and RCRA Sites
Hospitals
Tire Piles

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** Virginia Department of Corrections
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** Y / (N)

3. **Provide the tax map parcel number for the land where the discharge is located.** N/A

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next fine years due to new construction activities?** None Planned

5. **What is the design average effluent flow of this facility?** 0.012 MGD
For industrial facilities, provide the max. 30-day average production level, include units:

In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Y / (N)
If "Yes", please identify the other flow tiers (in MGD) or production levels:

Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. **Nature of operations generating wastewater:**
Domestic Waste / State Correctional Facility

95 % of flow from domestic connections/sources
Number of private residences to be served by the treatment works:

5 % of flow from non-domestic connections/sources

7. **Mode of discharge:** ✓ Continuous ____ Intermittent ____ Seasonal
Describe frequency and duration of intermittent or seasonal discharges:

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**
__ Permanent stream, never dry
✓ Intermittent stream, usually flowing, sometimes dry
__ Ephemeral stream, wet-weather flow, often dry
__ Effluent-dependent stream, usually or always dry without effluent flow
✓ Lake or pond at or below the discharge point
__
Other:

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JUN 10 2008
PRO

9. **Approval Date(s):**
O & M Manual December 29, 1983 **Sludge/Solids Management Plan** December 10, 1992

Have there been any changes in your operations or procedures since the above approval dates?
Y (N)

Bauer,Jaime

From: Phillips, Dallas L. (VADOC)
Sent: Friday, June 20, 2008 3:06 PM
To: Bauer,Jaime
Subject: RE: VA0023540 - DOC Dinwiddie Correctional Unit 27

Ms. Bauer,

I have reviewed your comments concerning the Dinwiddie Correctional Unit # 27 VPDES Permit Reissuance Application and offer the following response and corrections.

Question 1)

I should have put .015 mgd for question 5 on the VPDES Permit Application Addendum. That was my mistake.

Question 2)

I perform the final submittal of the EDMR each month. I am the Manager and responsible for operations. Robert Watkins is the operator on site daily and prepares the EDMR and operates the WWTP. I am responsible for several other sites too. I visit Dinwiddie weekly or as needed. I should be the primary and Robert the next in line. Timothy Newton is the Environmental Services Administrator and my supervisor. He signs the application as the DOC representative, although I completed the application process.

Question 3)

The maximum flow rates came from monthly log records. We do have a effluent flow meter that is accurate. I know this seems like a lot of flow for a .015 mgd plant. The majority of this flow on those days came from very heavy rainfall. Filtration and infiltration is a problem when there is a significant amount of rainfall. This is something we have noticed over the past years. It does not happen often, but occasionally.

Question 4)

The type of disinfection used at the outfall is chlorine tablets (Calcium Hypochlorite). I overlooked this question.

Question 5)

The facility generates approximately 12 dry metric tons of sludge per year. I should have put that figure in question 10 that is disposed of in the Shoosmith Landfill. That was my mistake.

I hope this gives you the answers you need to complete the application process. If you have any additional questions, please let me know. If you need for me to make the corrections on the pages of the application and send them to you, I will be glad to do so. If not, I will assume that this email will be acceptable.

Thank you for your cooperation.

Dallas L. Phillips
Environmental Services Manager
VDOC/Environmental Services Unit
Eastern Service Area
757-925-2212, ext. 5012
Dallas.Phillips@vadoc.virginia.gov

From: Bauer,Jaime [mailto:jlbauer@deq.virginia.gov]
Sent: Friday, June 20, 2008 9:44 AM

To: Phillips, Dallas L.
Subject: VA0023540 - DOC Dinwiddie Correctional Unit Unit 27

Good morning, Mr. Phillips,

I have reviewed the permit application for the subject facility. While I should be able to begin processing the application, there were a few questions I have for clarification purposes. The questions below identify the location in the permit application from which my questions are generated.

1) VPDES Permit Application Addendum – Question 5: You have indicated that the design average effluent flow of the facility is 12,000 gallons per day. However, in the Form 2A and according to our records, the plant design is 15,000 gallons per day. I realize the question on the addendum form may not be clear, but it is asking for the design size of the plant. Please confirm whether this answer should be 15,000 gallons per day.

2) Page 2 of Form 2A – Section A.1 and A.2: Under contact information you have included a few different names. Based on our communication over the past few months, I assume that you are the primary contact for the facility and that Mr. Robert Watkins and Mr. Tim Newton should be contacted if you are unavailable. Is this correct?

3) Page 3 of Form 2A – Section A.6.c: This part of the application request maximum daily flow rates for the plant. You have indicated that the maximum daily flow rates for the past three years are 58,000, 72,000, and 30,000 gallons per day. These flow rates seem very high for a plant with designed at 15,000 gallons per day. Please confirm that these maximum flow rates are correct. If they are correct, I would be interested in knowing what type of event caused such high flow rates if that information is available. If not, please do not worry about it.

4) Page 6 of Form 2A – Section A.11c: The question asks for the type of disinfection used at the outfall. This part of the question was left blank. Based on the rest of the application, it appears that the facility uses chlorination. Please confirm that the disinfection method is chlorination.

5) Sewage Sludge Application Section B. Questions 1 and 10: In the answer to question 1 you indicate that the facility generates 12 dry metric tons of sludge per year. In question 10 however, you have indicated that only 6 dry metric tons of sludge per year is landfilled at Shoosmith. Can you please explain further why the amount of sludge generated is not the same as the amount of sludge disposed of?

Upon satisfactory answers of these questions, the application will be considered complete. If you have any questions regarding the above, please feel free to call or email.

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Jaime L. Bauer
VPDES/VPA Permit Writer
DEQ-Piedmont Regional Office
804-527-5015
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COMMONWEALTH of VIRGINIA

OFFICE OF THE
REGIONAL DIRECTOR

Department of Corrections
Division of Operations
Eastern Region

1001 OBICI INDUSTRIAL BLVD.
SUITE F
SUFFOLK, VA 23434
(757) 925-2212

February 13, 2008

Jaime L. Bauer
Environmental Specialist II
Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

RE: VPDES Permit No. VA0023540 Reissuance
Dinwiddie Correctional Unit #27

Dear Ms. Bauer:

I am in the process of completing the VPDES Permit Reissuance Application for the WWTP at Dinwiddie Correctional Unit #27. In reviewing the application, I have a few issues that will require clarification and your approval.

For the NPDES Form 2A Application, Part A. 12. on page 6 of 21 requires BOD5 and TSS testing data to be from flow proportional, 24 hour composite samples. The present VPDES Permit requirement for BOD5 and TSS is grab sampling. We do not have any past data for these parameters that reflect flow proportional, 24 hour composite sampling. I feel that the test results from grab sampling would be representative of flow proportional, 24 hour composite sampling.

I am requesting that a waiver be granted to exclude flow proportional, 24 hour composite sampling and allow grab sampling data for BOD5 and TSS. By doing this, I can utilize data from the past four years. Being a significantly small discharge should not produce test results that would vary much regardless of sample type.

For the VPDES Sewage Sludge Permit Application Form, Section A.8. requires metal test results on sewage sludge. This monitoring data must be based on three or more samples that are no more than four and one-half years old. The landfill that disposes of

sewage sludge from the WWTP at Dinwiddie Correctional Unit #27 does not require yearly metals testing. No test has been performed for metal on the sludge since the last reissuance period. We just completed a metals test on the sludge from the drying beds. There should be enough time to perform another metals test from dried sludge. I am not sure if we will be able to get a third test run from dried sludge before the permit application is due. For this reason, I am requesting that a waiver be granted to allow data from two metals test rather that three.

I have made these two waiver requests based on the sampling types and frequencies that we presently follow. It is my belief that the testing data would be similar or close regardless of type or numbers.

Your consideration for these waiver requests is greatly appreciated.

Sincerely,

Dallas L. Phillips

Dallas L. Phillips
Environmental Services Manager

DLP/lm

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
PIEDMONT REGIONAL OFFICE
4949-A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 Fax (804) 527-5106
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Gerard Seeley, Jr.
Regional Director

TO: **Curt Linderman**
FROM: **Jaime Bauer**
DATE: **February 22, 2008**
SUBJECT: **Waiver Request for VA0023540 – Dinwiddie Correctional Unit #27 Re-issuance**
COPIES: **File (R/G, right)**

The attached waiver request is from Dinwiddie Correctional Unit #27, VA0023540. Please note the following:

- The facility is a discharger to an unnamed tributary of Whipponock Creek (in the Middle James River Basin) and has a design flow rate of 0.015 MGD.
- The facility requested a testing waiver from section A.12 of the Form 2A.that requires 24-hour composite samples for TSS and BOD_5. In lieu of 24-hour composite samples, the facility is proposing to use monthly grab samples for those parameters as required by the current permit Part I.A. page. The facility has stated that grab samples are representative of 24-hour composite samples.
- Review of DMR data from grab samples for TSS and BOD5 does not show concentrations of concern for either pollutant.
- The facility has also requested a waiver from the sewage sludge metals testing required in the VPDES Sewage Sludge Permit Application Form, Section A.8. Upon further review, it was determined that Section A.8 only applies to those facilities subject to limits in the sewage sludge regulations in 9 VAC 25-10-31 et seq. As stated in 9 VAC 25-31-420 the sewage sludge reporting requirement are applicable to POTWs with a design flow greater than 1 MGD and POTWs that serve more than 10,000 people. Neither is applicable to this facility; therefore, the facility does not have to provide monitoring for metals. The request for the metals waiver is therefore not necessary.

I recommend allowing the facility to substitute the 24-hour composite sample for grab samples for the TSS and BOD_5 samples as required by Form 2A.

☑ Approved ☐ Denied

Comments: As recommended, for this permit cycle, only.

Signature

2/26/08
Date

Bauer,Jaime

From: Phillips, Dallas L. (VADOC)
Sent: Friday, July 25, 2008 12:35 PM
To: Bauer,Jaime
Subject: RE: VA0023540 - DOC Unit 27 VPDES Permit

Jaime,

I used that figure to cover inflow and infiltration. Over the years, we have experienced this to a small degree. This is not a problem, but I know it exist. I did not want to say 100% makeup of the flow came from domestic connections when I know that storm runoff from the staff house goes in the basement and is pumped into the sewer system. This is minimal and does not cause a problem, but it does exist.

The facility is old and does experience a small degree of runoff into the sewer system.

Hope this answers your question.

Dallas L. Phillips
Environmental Services Manager
VDOC/Environmental Services Unit
Eastern Service Area
757-925-2212, ext. 5012
Dallas.Phillips@vadoc.virginia.gov

From: Bauer,Jaime [mailto:jlbauer@deq.virginia.gov]
Sent: Thursday, July 24, 2008 4:44 PM
To: Phillips, Dallas L.
Subject: VA0023540 - DOC Unit 27 VPDES Permit

Hi, Mr. Phillips,

I have been drafting the permit and fact sheet for the DOC facility and have one question for your. On the permit addendum form submitted with the application, you indicated that 5% flow to the plant is from non-domestic connections. Can you provide some more information on what type of sources this 5% is coming from?

Thanks,

Jaime

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Jaime L. Bauer
VPDES/VPA Permit Writer
DEQ-Piedmont Regional Office
804-527-5015
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